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ABSTRACT

In an attempt to determine the subscale structures most useful for identifying adolescents with social skill deficits, this study investigated the factor structure of the Teenage Inventory of Social Skills (TISS) and its relationship to two measures of adolescent social competence. Two measures were completed by 1,142 ninth-grade students (577 males and 565 females) in 7 junior high schools: the TISS and a Sociometric and Friendship Questionnaire. Exploratory and confirmatory factor analyses, internal reliability analyses, and criterion related assessments converged to support a two-subscale structure (a prosocial and an asocial behavior subscale) of the TISS as well as provide evidence of the questionnaire's construct validity. Three tables present study data. (Author/SLD)

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An Investigation of the Construct Validity of the Teenage Inventory of Social Skills: A Convergent Multivariate Approach

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Abstract

In an attempt to determine the subscale structures most useful for identifying adolescents with social skill deficits, this study investigated the factor structure of the Teenage Inventory of Social Skills (TISS) and its relationship to two measures of adolescent social competence. 1142 ninth grade students completed two measures: the TISS and a Sociometric and Friendship Questionnaire. Exploratory and confirmatory factor analyses, internal reliability analyses, and criterion related assessments converged to support a two subscale structure (a prosocial and an asocial behavior subscale) of the TISS as well as provide evidence of the questionnaire's construct validity.

INTRODUCTION

At present there are few psychometrically sound instruments available for assessing adolescent social competence as it relates to peer relationships. Furthermore, most of the assessment literature for adolescent social competence focuses on the evaluation of treatment effectiveness. Little work has been done in the area of developing appropriate measures for identifying adolescents with problematic social skills or for selecting specific target behaviors to be included in social skills training interventions. The Teenage Inventory of Social Skills (TISS) is a newly developed self-report questionnaire designed to meet this need.

A recent investigation (Inderbitzen & Foster, in press) presented evidence to support the reliablity and the validity of the TISS. Additional construct validity evidence may be obtained from an examination of the questionnaire's internal structure and relationship with other indices of social competence. Within the peer relationship literature, a distinction is frequently made between two social constructs: popularity or overall peer acceptance (most often measured via peer sociometrics) and dyadic friendship (most often measured via reciprocal nominations). An adolescent with social skill deficits may experience problems in the peer group as a whole and/or within dyadic relationships. Therefore, any measure of adolescent peer functioning should be relevant for both social competence constructs: popularity and dyadic friendships.

When the TISS was developed, separate subscales assessing prosocial and asocial behavior were formed. The identification of adolescents with problematic social skills, however, may be better served by more molecular behavioral subscales. Thus, the purpose of the present study was to investigate the factor structure of the TISS and its relationship to two measures of adolescent social competence to determine the subscale structures most useful for identifying adolescents with social skill deficits.

METHOD

Subjects

1,142 (577 males, 565 females; M age = 14.7) ninth grade students from seven different public junior high schools in a mid-sized, midwestern town participated in the present study.

Measures

Students completed two questionnaires:

(1) Teenage Inventory of Social Skills (TISS): The TISS is a 40-item (20 items reflecting behaviors related to peer acceptance and labeled as the prosocial behavior subscale, and 20 items reflecting behaviors related to peer dislike and labeled as the asocial behavior subscale) self-report questionnaire. Respondents are asked to rate the descriptiveness of each of the 40 items along a 6-point continuum.

(2) Sociometric and Friendship Questionnaire (SFQ): The SFQ was used in the present study to determine a student's social status and number of reciprocal friendships. Student's social status was determined by peer nominations using the Coie, Dodge, and Coppotelli (1982) system. Reciprocal friendships were determined

by mutual friendship nominations (separate from sociometric nominations) accompanied by liking ratings of 4 or 5 on a 5-point scale.

RESULTS

Exploratory and confirmatory factor analyses, internal reliability analyses, and criterion related assessments converged to support the two subscale (prosocial and asocial) structure of the TISS as well as provide additional evidence of its construct validity.

First, an exploratory principal components analysis suggested several viable factor solutions (see Table 1). Examination of two through seven factor solutions suggested the interpretability of the two, three, and four factor solutions. Of these, it is clear that much of the systematic covariation is accounted for by the first two factors. Subsequent factor analyses for prosocial and asocial items separately, however, also indicated the utility of a four subscale model (a single prosocial scale and three asocial scales which we will call norm-violating, insensitivity, and self-centeredness).

Confirmatory OMG factor analyses were conducted to compare the relative fit of the two and four factor structures to the TISS. Results of these analyses indicated that either solution was a viable structure for the TISS. Thus, consideration was next given to reliability. The reliabilities for the two subscale model are large (α=.90 and .84, for prosocial and asocial subscales respectively). For the four subscale model, one of the three asocial subscale reliabilities (norm-violating behavior) is large

(α = .75), while the other two are nominally acceptable (α = .66 and .69, for insensitive and self-centered, respectively).

Taken together, the factor and internal reliability analyses supported two alternative constructions of the TISS, the two and four scale models. Thus, a comparison of these models was made using external critieria: sociometric status and number of reciprocal friends. The goal of these analyses was to determine which of the alternative solutions provides the maximum relationship between the elements of social competence as measured by the TISS and these two social competence constructs.

A series of multiple regression analyses were conducted to examine the relative utility of the different TISS subscale structures for predicting social competence as indexed by number of reciprocal friends. The two-scale model yielded a multiple correlation of R = .34 while the four-scale model yielded R = .35 which was not significantly larger ($F(1,878)=1.18$, $p > .05$).

A series of discriminant analyses were conducted to examine the relative utility of the two and four subscale structures of the TISS for discriminating among the five sociometric groups. The two-scale model produced a canonical correlation of .26 which was not significantly smaller than the correlation of .29 for the four-scale model ($F(2,794)=.84$, $p>.05$).

Taken together, the reliability, factor, and predictive analyses suggest the greater utility of a two subscale model for the TISS. This structure is supported by confirmatory factoring, produces subscales with acceptable levels of reliability, and

functions well in relation to two different measures of adolescent social competence.

FUTURE DIRECTIONS

Future work on the assessment of adolescent social competence should certainly explore the constructs identified in the present factor analysis. Specifically, attempts might be made to identify and measure the three separate components of the "asocial" behaviors: norm-violation, self-centeredness, and insensitivity. Additional criterion measures of adolescent peer adjustment such as quality of friendships and participation in social cliques should also be included (Coie, Terry, & Christopoulos, 1991; Parker & Asher, in press). Together, this dual approach of increasing the specificity of the assessment instruments and the completeness of the measures of adolescent social relations should lead both to refined theory and to more comprehensive measures.

References

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TABLE 1

SUMMARY OF EXPLORATORY FACTOR ANALYSIS OF THE 40 TISS ITEMS

EIGENVALUE	% VARIANCE	CUMMULATIVE % VARIANCE	FACTOR
1	8.839	22.1	22.1
2	4.352	10.9	33.0
3	1.644	4.1	37.1
4	1.487	3.7	40.8
5	1.233	3.1	43.9
6	1.171	2.9	46.8
7	1.086	2.7	49.5
20	.679	1.7	76.3
30	.492	1.2	90.3
40	.299	.7	100.0

TABLE 2

COMPARISON OF 2, 3, AND 4 SCALE MODELS FOR THE TISS

MODEL	H^2	PHI MAXIMUM	PHI AVERAGE
2 PC	32.9	--	--
2 CPC	30.5	.062	--
2 SCALES	29.7	.383	--
2 PSEUDO	21.4	.744	--
4 PC	40.7	--	--
4 CPC	38.6	.073	--
4 SCALES	36.2	.553	.314
4 PSEUDO	31.1	.625	.533
5 PC	43.8	--	--
5 CPC	41.5	.102	.053
5 SCALES	39.2	.579	.324
5 PSEUDO	38.8	.712	.637

NOTE: H^2 = VARIANCE ACCOUNTED FOR BY THE MODEL; PHI AVERAGE = AVERAGE INTERFACTOR CORRELATION; PHI MAXIMUM = LARGEST INTERFACTOR CORRELATION; PC = EXPLORATORY PRINCIPAL COMPONENTS SOLUTION; CPC = CROSS PRINCIPAL COMPONENTS SOLUTIONS FROM SPLIT-HALFS OF THE SAMPLE; SCALES = HYPOTHESIZED 2, 4, AND 5 SCALE STRUCTURES; PSEUDO = PSEUDO FACTOR SOLUTIONS.

TABLE 3

TEENAGE INVENTORY OF SOCIAL SKILLS ITEMS- MALE VERSION
(* INDICATES ITEM ON THE ASOCIAL SUBSCALE)

ITEMS

*1. I TELL JOKES AND GET OTHER CLASSMATES TO LAUGH
*2. I TRY TO GET OTHER CLASSMATES TO DO THINGS MY WAY WHEN WORKING ON A GROUP PROJECT
3. I STICK UP FOR OTHER GUYS WHEN SOMEBODY SAYS SOMETHING NASTY BEHIND THEIR BACKS
*4. I FORGET TO RETURN THINGS THAT OTHER GUYS LOAN ME
*5. I MAKE JOKES ABOUT TOHER GUYS WHEN THEY ARE CLUMSY AT SPORTS
6. I ASK OTHER GUYS TO GO PLACES WITH ME
7. I HELP OTHER GUYS WITH THEIR HOMEWORK WHEN THEY ASK ME FOR HELP
*8. I IGNORE CLASSMATES WHEN THEY TELL ME TO STOP DOING SOMETHING
9. I OFFER TO HELP CLASSMATES DO THEIR HOMEWORK
*10. WHEN I DON'T LIKE THE WAY OTHER GUSY LOOK, I TELL THEM
11. I LISTEN WHEN OTHER GUYS WANT TO TALK AOBUT A PROBLEM
*12. I LAUGH AT OTHER GUYS WHEN THEY MAKE MISTAKES
*13. I PUSH GUYS I DO NOT LIKE
*14. WHEN I WANT TO DO SOMETHING, I TRY TO TALK OTHER GUYS INTO DOING IT, EVEN IF THEY DON'T WANT TO
15. I MAKE SURE THAT EVERYONE GETS A TURN WHEN I AM INVOLVED IN A GROUP ACTIVITY
*16. I TALK ONLY ABOUT WHAT I'M INTERESTED IN WHEN I TALK TO OTHER GUYS
17. I ASK OTHER GUYS FOR ADVICE
18. I TELL OTHER GUYS THAT THEY ARE NICE

TABLE 3, CONTINUED

19.	I IGNORE OTHER GUYS WHEN I AM NOT INTERESTED IN WHAT THEY ARE TALKING ABOUT
*20.	I LIE TO GET OUT OF TROUBLE
*21.	I ALWAYS TELL OTHER CLASSMATES WHAT TO DO WHEN SOMETHING NEEDS TO BE DONE
*22.	WHEN I AM WITH MY BEST FRIEND, I IGNORE OTHER GUYS
*23.	I FLIRT WITH ANOTHER GUY'S GIRLFRIEND WHEN I LIKE HER
*24.	I MAKE UP THINGS TO IMPRESS OTHER GUYS
25.	I TELL OTHER CLASSMATES THEY PLAYED A GAME WELL WHEN I LOSE
26.	I OFFER TO SHARE SOMETHING WITH OTHER GUYS WHEN I KNOW THAT THEY WOULD LIKE IT
27.	I LEND OTHER GUYS MONEY WHEN THEY ASK FOR IT
*28.	I HIT OTHER GUYS WHEN THEY MAKE ME MAD
29.	I TELL CLASSMATES I'M SORRY WHEN I KNOW I HAVE HURT THEIR FEELINGS
30.	I TELL THE TRUTH WHEN I HAVE DONE SOMETHING WRONG AND OTHER GUYS ARE BEING BLAMED FOR IT
31.	I TALK MORE THAN OTHERS WHEN I AM WITH A GROUP OF GUYS
*32.	I IGNORE OTHER GUYS WHEN THEY GIVE ME COMPLIMENTS
*33.	I THROW THINGS WHEN I GET ANGRY
34.	I OFFER TO LOAN OTHER GUYS MY CLOTHES FOR SPECIAL OCCASIONS
35.	I THANK OTHER GUYS WHEN THEY HAVE DOEN SOMETHING NICE FOR ME
36.	I DO MY SHARE WHEN WORKING WITH A GORUP OF CLASSMATES
*37.	I CALL CLASSMATES BAD NAMES TO THEIR FACES WHEN I AM ANGRY
38.	I KEEP SECRETS PRIVATE
39.	I TELL OTHER GUYS HOW I REALLY FEEL ABOUT THINGS
40.	I SHARE MY LUNCH WITH CLASSMATES WHEN THEY ASK ME TO